

WHAT IS CLAIMED IS:

1. A parking meter system comprising
a parking meter;
an induction coil vehicle detection sensor; and
a controller coupled to the sensor and the meter for
5 selectively controlling the meter responsive to the sensor.
2. The parking meter of claim 1, further comprising
a solar energy power supply coupled to the controller.
3. The parking meter of claim 2, the solar energy power
supply having a solar panel.
4. The parking meter of claim 3, the solar panel being
separate from the parking meter.
5. The parking meter of claim 1, the controller being
constructed and arranged such that the time on the meter is
initialized to zero when a vehicle leaves the parking space.
6. A parking meter system comprising
multiple parking meters;
multiple induction coil vehicle detection sensors;
multiple controllers, each controller being coupled to
5 a sensor and a corresponding meter for selectively controlling
each meter responsive to its respective sensor; and
a power supply coupled to each parking meter.
7. The parking meter system of claim 6, further comprising
a solar energy power supply coupled to each controller.
8. The parking meter system of claim 6, the solar energy
power supply having a single solar panel.
9. The parking meter system of claim 6, the power supply
being an existing traffic signal power supply.
10. The parking meter of claim 6, the controller being
constructed and arranged such that the time on a meter is

initialized to zero when a vehicle leaves the meter's corresponding parking space.

11. A parking meter comprising
multiple parking meters;
multiple induction coil vehicle detection sensors;
multiple controllers, each controller being coupled to

5 a sensor and a corresponding meter for selectively controlling each meter responsive to its respective sensor; and

a cpu coupled to each meter for data transmission.

12. The parking meter system of claim 11, further

comprising

a solar energy power supply coupled to each controller.

13. The parking meter system of claim 11, the solar energy power supply having a single solar panel.

14. The parking meter system of claim 11, the power supply being an existing traffic signal power supply.

15. The parking meter of claim 11, the controllers being constructed and arranged such that the time on a meter is initialized to zero when a vehicle leaves the meter's corresponding parking space.

16. The parking meter system of claim 11, in which the cpu sends data to a data gathering and/or processing location.

17. The parking meter system of claim 16, the data being sent via wire.

18. The parking meter system of claim 16, the data being sent via fiber optics.

19. The parking meter system of claim 16, the data being sent via radio waves.

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What is claimed:

1.) A vehicle detector for a low power electronic parking meter, comprising:

an inductance loop embedded in a vehicle parking space;

a variable oscillator circuit oscillating at a base frequency and responsive to the inductance of the inductance loop for indicating the presence or absence of a vehicle in the parking space;

a microprocessor controller including a crystal oscillator operating at approximately 50 times the base frequency of the variable oscillator circuit and providing a signal including the crystal oscillator for controlling the variable oscillator circuit;

the presence or absence of a vehicle in the parking space causing a respective decrease or increase in the inductance of the inductance loop and a respective commensurate increase or decrease in the operating frequency and a respective decrease or increase in the period of the variable oscillator circuit, thereby decreasing or increasing the number of crystal oscillator pulses in each period of the variable oscillator circuit;

said oscillator providing an output signal including said crystal oscillator pulses to said microprocessor controller; and

said microprocessor controller counting the number of pulses in a given cycle of operation of the variable oscillator circuit to determine the presence or absence of a vehicle in the parking space.

21 f.) The vehicle detector defined in claim 1, further comprising an isolation transformer electrically connected between the inductance loop and said oscillator circuit, means for suppressing transients connected in parallel between the inductance loop and the isolation transformer and means for tuning said variable oscillator circuit.

22 g.) The vehicle detector as defined in claim 1, further comprising means for squaring the output of said variable oscillator circuit.

23 h.) The vehicle detector defined in claim 1, wherein the base frequency of said variable oscillator is 80 KHz, the crystal oscillator oscillate at a frequency of 4 MHz, the ON period and OFF period of said variable oscillator circuit is approximately 12.5 ms and 2.5 seconds, respectively.

24 i.) The vehicle detector defined in claim 1, wherein said microprocessor controller generates serial data from said out put signal.